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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,150	07/25/2001	Gary R. DelDuca	47097-01080	6442

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JENKENS & GILCHRIST, P.C.  
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CHICAGO, IL 60606

EXAMINER

MADSEN, ROBERT A

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/915,150

Applicant(s)

DELDUCA ET AL.

Examiner

Robert Madsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 87-189 is/are pending in the application.
- 4a) Of the above claim(s) 91-160 and 172-189 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37, 87-90, 161-171 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: 1/14, 1/20, 1/29.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

1. Applicant's arguments discussed in the Interviews of January 14 and 20, 2004 are persuasive and, therefore, the finality of that action is withdrawn. Claims 1-37, 87-189 remain pending. Claims 91-160 and 172-189 are withdrawn from consideration as being drawn to a non-elected invention for the reasons cited in the Office Action mailed December 8, 2003.

1. As noted in the interview of January 29, 2004, the finality of the office action mailed December 8, 2003 is hereby withdrawn. Additionally, the rejections made in the office action mailed December 8, 2003 are hereby withdrawn.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-6,8-11,13-26,28-30,32-37,87-90,161,162,164-171 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al. (US 6054153) in view of Woodruff et al. (US 4522835).

4. Carr et al. teach a method of manufacturing a modified atmosphere meat package comprising a first package made of a polystyrene foam tray sealed by a permeable pvc overwrap as recited in claims 16,17 and 35, covering the first package with a second impermeable package such that a pocket is formed between the two packages, flushing the pocket, as recited in claims 8,28,164 with gases consisting essentially of about 30% carbon dioxide and about 70% nitrogen, as recited in claims 9-

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11,29,30 in order to lower the level of oxygen in the pocket to preferably less than 0.5%, as recited in claims 5, 6,25,26,165,166 to prevent the formation of metmyoglobin, as recited in claims 1,22, and 161. Additionally, Carr et al. teach flushing alone may not reduce the level of oxygen to less than 0.5%, which would be evident by the formation of oxymyoglobin as recited in claim 22, and teach placing an oxygen scavenger and accelerator in the pocket to reduce the level about zero percent in less than 24 hours, as recited in claims 2-4,23,24,162. Carr et al. further teach removing the second package, which would modify the packages atmospheres and would not destroy the first package, before retailing to allow the raw meat to be exposed to ambient atmosphere to give the meat the same color as fresh meat as recited in claims 13-15,32-34,87-90,167-171 (Abstract, Column 1, line 46 to Column 2, line 45,Column 3, lines 47-67,Column 5, line 60 to Column 6, line 49).

5. However, Carr et al. are silent in teaching 0.1-0.8%,0.3-0.5% , or 0.1-0.5%, carbon monoxide in addition to the carbon dioxide and nitrogen to form carboxymyoglobin, as recited in claims 1, 11, 18-21,30,36,37,161 or convert deoxymyoglobin directly to carboxymyoglobin as recited in claim 1 or oxymyoglobin to carboxymyoglobin as recited in claim 22.

6. Woodruff et al. teach treating storing meat in a reduced oxygen modified atmosphere of 0.1-3% CO, along with 20-60% CO<sub>2</sub> , 40-80% N<sub>2</sub> , and 0% O<sub>2</sub> and convert deoxymyoglobin to carboxymyoglobin on the surface of the meat. Woodruff et al. teach meat that is stored in a refrigerated or frozen state under low oxygen conditions prior to final sale/consumption packaging. Woodruff et al. teach removing

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the O<sub>2</sub> causes the meat to turn purple, while carbon monoxide will provide a desirable red color during storage, or the same color as fresh meat (Abstract, Column 1, line 63 to Column 3, line 30, Examples).

7. Therefore, it would have been obvious to modify Carr et al. and include anywhere from 0.1-0.8% carbon monoxide, 40-80% nitrogen, and 20-60% carbon dioxide in the modified atmosphere pocket (i.e. between the two packages) to convert the deoxymyoglobin to carboxymyoglobin as recited in claims 1,11,18-22,30, 36, 37 and 161, since Woodruff et al. teach it is preferred to have a "good color" (i.e. red color of fresh meat) for meat stored within a low/no oxygen modified atmosphere and this is done by adding 0.1-0.8% carbon monoxide along with 40-80% nitrogen and 20-60% carbon dioxide in the package. One would have been substituting one conventional carbon dioxide/ nitrogen based atmosphere for another for the same purpose: providing a low/no oxygen atmosphere for providing the appearance of fresh cut meat after storage. Forming carboxymyoglobin from deoxymyoglobin or oxymyoglobin would have been an obvious result effective variable of the level of oxygen in the modified atmosphere since Carr et al. teach some oxygen may or may not be present during the first 24 hours.

8. Claims 1,2,5-10,12-15,18-23,25-29,31-34,36,37,87-90,161-171 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breen et al. (US 5711978) in view of Woodruff et al. (US 4522835). and Verbruggen (DE 1935566 A).

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9. Breen et al. teach a method of packaging meat in a modified atmosphere package for sale/consumption comprising supplying a first package comprising a sealed tray, surrounding the tray with a bag, removing oxygen by vacuum, supplying/flushing the bag, as recited in claims 7,8,27,28,163,164 with substantially pure carbon dioxide gas, as recited in claims 9,10,12,28,29, 31,165,166, and sealing the bag such that oxygen is at 30-50 ppm in the pocket, equilibrating within minutes to 250 ppm and eventually drops off significantly as the meat absorbs the oxygen, as recited in claims 5,6,25,26, which would in turn form oxymyoglobin as recited in claims 18, 22 prevent the formation of metmyoglobin, as recited in claims 1,22, and 161, and due to the lack of oxygen in the package result in the formation of deoxymyoglobin as recited in claims 19. Additionally, Breen et al. teach at least a portion of bag can be removed for retailing without destroying the tray to expose the meat to ambient atmosphere, as recited in claims 13-15,32-34,87-90,167-171, As an extra measure of safety, Breen et al. further teach adding an oxygen scavenger in the pocket, as recited in claims 2,23,162(Figure 7, Column 2, lines 27-62, Column 4, lines 40-63, Column 5, line 5 to Column 6, line 5). However, Breen et al. are silent in teaching 0.1-0.8%,0.3-0.5%, or 0.1-0.5%, carbon monoxide in addition to the substantially pure carbon dioxide, as recited in claims 1, 12,18-22,31,36,37,161 or convert deoxymyoglobin directly to carboxymyoglobin as recited in claim 1 or oxymyoglobin to carboxymyoglobin as recited in claim 22.

10. Woodruff et al. teach treating storing meat in a reduced oxygen modified atmosphere of 0.1-3% CO, along with gas comprising at least 10% carbon dioxide and 0% oxygen and convert deoxymyoglobin to carboxymyoglobin on the surface of the

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meat. Woodruff et al. teach meat that is stored in a refrigerated or frozen state under low oxygen conditions prior to final sale/consumption packaging. Woodruff et al. teach removing the O<sub>2</sub> causes the meat to turn purple, while carbon monoxide will provide a desirable red color during storage, or the same color as fresh meat (Abstract, Column 1, line 63 to Column 3, line 30, Examples).

11. Verbruggen is relied on as further evidence of the conventionality of utilizing a carbon dioxide and carbon monoxide gas mixture for preserving meat (See Abstract).

12. Therefore, it would have been obvious to modify Bean et al. and include anywhere from 0.1-0.8% carbon monoxide with the substantially pure carbon dioxide modified atmosphere pocket (i.e. between the two packages) to convert the deoxymyoglobin to carboxymyoglobin as recited in claims 1,12,18-22,31,36, 37 and 161, since Woodruff et al. teach it is preferred to have a "good color" (i.e. red color of fresh meat) for meat stored within a low/no oxygen modified atmosphere and this is done by adding 0.1-0.8% carbon monoxide along with at least 10% carbon dioxide in the package. One would have been substituting one conventional carbon dioxide based atmosphere for another for the same purpose: providing a low/no oxygen atmosphere for providing the appearance of fresh cut meat after storage. Forming carboxymyoglobin from either deoxymyoglobin or oxymyoglobin would have been an obvious result effective variable of the amount of oxygen already absorbed by the meat since Bean et al. teach residual oxygen is absorbed by the meat when the meat is initially packaged.

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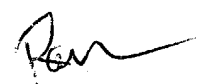
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (571) 272-1402. The examiner can normally be reached on 7:00AM-3:30PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert Madsen  
Examiner  
Art Unit 1761



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